

Country : USSR  
CATEGORY :

M-8

ABS. JOUR. : RZBiol., No. <sup>8</sup>17, 1959, No. 87275

AUTHOR : Sosina, Ye.

INST. :

TITLE : The State of Viticulture in the Republic  
and Ways of Improving It.

ORIG. PUB. : S. Zh. Kirgizii, 1956, No 6, 23-27

ABSTRACT : No abstract.

CARD: //

SOSINA, Yelena Ivanovna, kand. sel'khoz. nauk; GOLOD, O.V., red.;  
BEYSHENOV, A., tekhn. red.

[Collective and individual viticulture] Kollektivnoe i pri-  
usadebnoe vinogradarstvo. Frunze, Kirgizskoe gos. izd-vo,  
1960. 59 p. (MIRA 15:3)  
(Viticulture)

h0675

S/126/62/014/002/009/018  
E193/E583

189500

AUTHORS: Cvsiyenko, D.Ye. and Sosina, Ye.I.

TITLE: The effect of mosaic structure on the magnitude of the critical resolved stress in cast aluminium single crystals

PERIODICAL: Fizika metallov i metallovedeniye, v. 14, no. 2, 1962, 252 - 258

TEXT: The investigation described in the present paper was a continuation of earlier work on the effect of mosaic structure on creep of aluminium single crystals (FMM, 1962, 14, 3). The experimental specimens (3 mm in diameter, 35 mm gauge length) of 99.99% pure aluminium were grown by a method entailing the use of seed crystals and programmed cooling of the melt at a constant rate. The axis of each crystal coincided with the [110] direction. After etching, the orientation of each crystal was checked by X-ray diffraction and the dimensions of the blocks and maximum degree of their misalignment were determined. The specimens were then extended on a specially designed testing machine and the results were used to calculate the critical

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E193/E385

The effect of mosaic structure...

resolved stress  $\tau_r$ . The values obtained were correlated with the block dimensions and with the degree of misalignment. The results are reproduced in Figs. 4 and 5. In Fig. 4,

$\tau_r$  (g/cm<sup>2</sup>) is plotted against the angle of misalignment (min), Fig. 5 showing  $\log \tau$  plotted as a function of  $\log \ell$ , where  $\ell$  is the average block size ( $\mu$ ). The conclusions arrived at can be summarized as follows: 1) the critical resolved stress is proportional to the angle of misalignment of the blocks and inversely proportional to the square root of the block dimensions. In quantitative terms the critical resolved stress is doubled when the angle of misalignment increases four times, or when the block dimensions decrease by a factor of 25; 2) The experimentally determined dependence of the critical resolved stress on the dislocation density (in the  $5 \times 10^6$  to  $5 \times 10^8$  cm<sup>-2</sup> range) is in satisfactory agreement with a theoretical relationship based on the hypothesis of elastic interaction between moving dislocations and dislocations in the primary substructure. This indicates that the dislocation structure formed during

Card 2/3

The effect of mosaic structure...

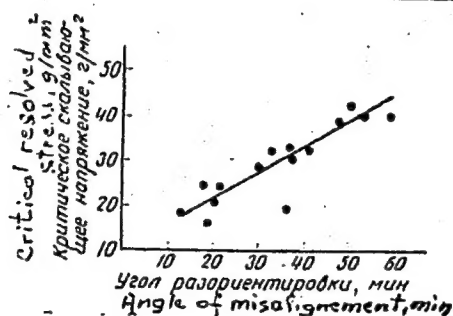
S/126/62/014/002/009/013  
E193/E333

the growth of crystals plays an important part in the onset of plastic flow in the crystal. There are 6 figures and 1 table.

ASSOCIATION: Institut metallofiziki AN UkrSSR  
(Institute of Metal Physics of the AS UkrSSR)

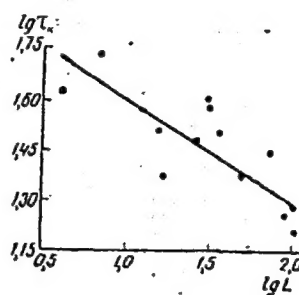
SUBMITTED: January 26, 1962 (initially)  
March 26, 1962 (after revision)

Fig. 4:



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Fig. 5:



L 36111-66 EWT(1)/EWT(m)/EWP(k)/T/EWP(t)/ETI IJP(c) JD/JH  
ACC NR: AP6017306 (N) SOURCE CODE: UR/0126/66/021/005/0727/0731

AUTHORS: Polotskiy, I. G.; Ovsienko, D. Ye.; Khodov, Z. L.; Sosnina, Ye. I.; 52  
Bazelyuk, G. Ya.; Kushnir, V. K. 51

ORG: Institute of Metal Physics AN UkrSSR (Institut metallofiziki AN UkrSSR) 8

TITLE: Influence of ultrasound on the degree of perfection of single crystals of aluminum, grown from the melt 18

SOURCE: Fizika metallov i metallovedeniye, v. 21, no. 5, 1966, 727-731

TOPIC TAGS: aluminum, metal crystal, metal crystallization, ultrasonic effect, ultrasonic irradiation, single crystal

ABSTRACT: The effect of an ultrasonic field on the degree of perfection of aluminum crystals grown from the melt was studied. The study supplements the results of B. Langenecker (Phys. Rev. Letters, 1965, 14, 221). The experimental procedure consisted of subjecting a crystallizing aluminum melt to the action of an ultrasonic field (see Fig. 1). The structure of single crystals of aluminum derived from the melt with and without the action of the ultrasonic field was studied by means of double x-ray reflection (Ye. I. Sosnina, L. I. Meleshko, and D. Ye. Ovsienko. Issledovaniye nesovershenstv kristallicheskogo stroyeniya, Kiyev, izd. Nauchnaya mysl', 1965, str. 122) and by sound absorption and etching techniques. The experimental results are presented graphically (see Fig. 2). The application of an ultrasonic

UDC: 669.172:621.7892:516.621

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ACC NR: AP6017306

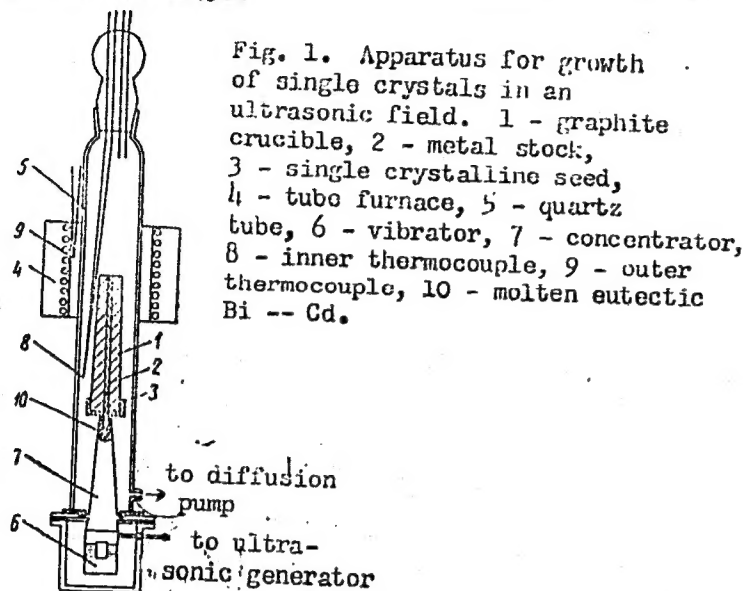


Fig. 1. Apparatus for growth of single crystals in an ultrasonic field. 1 - graphite crucible, 2 - metal stock, 3 - single crystalline seed, 4 - tube furnace, 5 - quartz tube, 6 - vibrator, 7 - concentrator, 8 - inner thermocouple, 9 - outer thermocouple, 10 - molten eutectic Bi -- Cd.

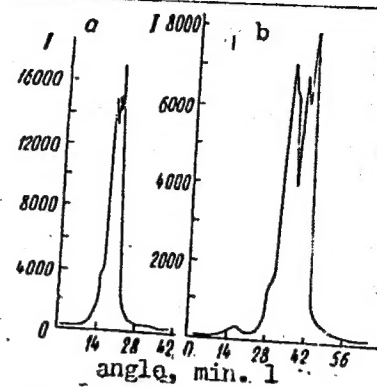


Fig. 2. Curves for double reflection from a single crystal of aluminum. a - before ultrasonic treatment; b - after ultrasonic treatment in the solid phase.

field to a growing aluminum crystal causes a considerable disorientation of the subgrains in the latter. It is suggested that the disorientation effect is caused by the tensions created by the ultrasonic field in the growing crystals. Orig. art. has: 2 tables, and 4 figures.

SUB CODE: 20, 11, 5 SUBM DATE: 19Jul65/ 16 ORIG REF: 004/ OTH REF: 002

SOSINA, Z.

Research on the sturcture of protein V. About acetylated proteins A. KIZEL  
Z. KAIPOVA AND SOSINA ( THE LAB. OF PLANT BIOCHEMISTRY, MOSCOW STATE UNIVERSTIY)  
vol.2 no.5, p. 713, 1937.



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Electrophoretic study of antitoxic Diaferm 3 serums additionally treated with aluminum hydroxide. Zhur. mikrobiol., epid. i immun. 40 no.1:141-147\*63. (MIRA 16:10)

1. Iz Stavropol'skogo instituta vaktsin i syvorotok.

\*

SOSINA, Z.M.

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1. From the department of anatomy and physiology, Paedagogical  
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PMTR no.1:132-134 Ja-F '61. (MIRA 14:6)  
(Disks, Rotating) (Creep of materials)

SQSINKA, Jozef, inz.; PANCZYK, Jerzy, techn.

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2. USSR (600)
3. Machinery-Standards
4. Purpose and problems of standardization.  
Vest mash. No. 7 - 1952.

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CZYZEWSKI, Kazimierz, SOSINSKI, Andrzej, WITKOWSKA, Lucyna

Case of supradiaphragmatic duplication of the gastrointestinal system communicating with normal gastrointestinal system through the diaphragm .  
Polski przegl. chir. 30 no.2:173-179 Mar 58

1. Z I Kliniki Chirurgicznej A.M. we Wrocławiu. Kierownik: prof. dr K. Czyzewski. Adres: Wrocław, ul. Pugeta 27.

(GASTROINTESTINAL SYSTEM, abnorm.

supradiaphragmatic duplication communicating with  
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7-year old boy (Pol))



SOSINSKI, Andrzej

Selected problems of investment completion in the chemical industries. General delivery. Przem chem 39 no.6:314-316 Je '60.

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1. Biuro Projektow Przemyslu Organicznego, Warszawa 1  
Ministerstwo Przemyslu Chemicznego, Warszawa

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for designing and technological and costs problems. Przem chem 40 no.9:  
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SOSINSKI, Andrzej

Selected questions of investment in the Chemical industry, III.  
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SOSINSKI, Andrzej

Selected problems of investment in the chemical industry. IV.: The system to be applied for future investments. Przem chem 41 no.3:122 Mr '62.

1. Ministerstwo Przemyslu Chemicznego

Country : Poland H-13  
Category :  
Doc. No. : 46618  
Author : Sosinski, J.  
Institus. :  
Title : Location of Cement Factories in Conjunction  
with the Transport Problem  
Orig. Pub. : Cement. Wapno. Gips, 1958, 14, No 10, 219-223

Abstract : The problem of location of new cement factories to be built in Poland is considered from the standpoint of the cost of delivery of raw materials, fuel, and other items, and shipping of cement to consumer. Measures are recommended aimed at decreasing the average cement hauling distances from 254 km in 1957 to 166 km by 1975. -- B. Ievman.

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(MOTORYZACJA, Vol. 12, No. 5, May 1957, Warsaw, Poland)

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on technology. Przegl techn no.46:12 16 N '60.

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(MIRA 16:9)  
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Remote results of hormonal therapy of cancer of the prostate.  
Urol. polska 9:107-109 1956.

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dr. Jerzy Rutkowski.

(ESTROGENS, therapeutic use,  
cancer of prostate, remote results (Pol))

(PROSTATE, neoplasms,  
ther., estrogens, remote results (Pol))

PERZYNSKI, Z., ina.; SOSINSKI, R., mgr.inz.

Automobile sports under criticism. Horyz techn 14 no.9:  
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Embedding of a  $k$ -dimensional element into  $E_n$ . Dokl. AN SSSR  
139 no.6:1311-1313 Ag '61. (MIRA 14:8)

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Multidimensional nodes. Dokl. AN SSSR 163 no.6:1326-1329 Ag '65.  
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1. Moskovskiy gosudarstvennyy universitet. Submitted January 11,  
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Representation of functions by nonrepetitive superpositions in  
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(MIRA 18:6)



JST AND JTD PREFIXES															JST AND JTD SUFFIXES														
<div style="display: flex; justify-content: space-between;"> <span>CA</span> <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>RELATING MAGNETIC SOLS AS A METHOD OF STUDYING COLLOIDAL SYSTEMS.</b>  V. N. Tsvetkov and M. Smirnov. <i>Kolloid. Zhur.</i> 11, 197-200 (1949).—A roughly cylindrical container, 1 cm. in diam., filled with a colloidal sol. was rotated about the cylinder axis between the poles of an electromagnet. The magnetic field produced torque <math>L</math> on every sol particle but frictional torque <math>W</math> retarded their orientation so that there was a lag of <math>\alpha</math> between the direction of the field and that of the particles; <math>\alpha</math> was detd. by observing the sol along the cylinder axis between crossed nicols and rotating the nicols until dark. Sols prepd. by mixing alc. so no. of <i>p</i>-acrylamide (I) or anisaldazine (II) with much <math>H_2O</math> showed proportionality between <math>\sin 2\alpha</math> and the frequency of rotation <math>\nu</math> as long as <math>\nu</math> was less than 3 sec.<sup>-1</sup>. At greater <math>\nu</math> the whole liquid in the container rotated. In graphite sols (III) prepd. in an elec. arc under <math>H_2O</math> the curve of <math>\sin \alpha</math> against <math>\nu</math> was concave toward the <math>\nu</math> axis at all <math>\nu</math>. When the field intensity <math>H</math> was varied (up to 15,000 oersteds), I and II showed proportionality between <math>\sin \alpha</math> and <math>H^{-1/2}</math>, as would be expected from anisotropic diamagnetic particles; III showed proportionality between <math>\sin \alpha</math> and <math>H^{-1}</math> as if graphite particles had a const. magnetic moment; and sols prepd. by elec. dispersion of Fe in <math>H_2O</math> behaved as a ferromagnetic substance. <math>L</math> was proportional to viscosity which was varied by addn. of glycerol. By combining the data on <math>\alpha</math> with birefringence or dichroism of the sols in magnetic field <math>H</math> was calcd. for I, II, anisaluminarobenzene, acetoxybenzalazine, and dibenzalbenzidine. The particles of I, e.g., had a vol. of <math>3 \times 10^{-14}</math> cc. and their ratio length: width was 2.5.</p> <p style="text-align: right;">J. J. Bikerman</p> </div> </div>															<div style="display: flex; justify-content: space-between;"> <span>2</span> </div>														
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<div style="display: flex; justify-content: space-between;"> <span>CA</span> <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>RELATING MAGNETIC SOLS AS A METHOD OF STUDYING COLLOIDAL SYSTEMS.</b>  V. N. Tsvetkov and M. Smirnov. <i>Kolloid. Zhur.</i> 11, 197-200 (1949).—A roughly cylindrical container, 1 cm. in diam., filled with a colloidal sol. was rotated about the cylinder axis between the poles of an electromagnet. The magnetic field produced torque <math>L</math> on every sol particle but frictional torque <math>W</math> retarded their orientation so that there was a lag of <math>\alpha</math> between the direction of the field and that of the particles; <math>\alpha</math> was detd. by observing the sol along the cylinder axis between crossed nicols and rotating the nicols until dark. Sols prepd. by mixing alc. so no. of <i>p</i>-acrylamide (I) or anisaldazine (II) with much <math>H_2O</math> showed proportionality between <math>\sin 2\alpha</math> and the frequency of rotation <math>\nu</math> as long as <math>\nu</math> was less than 3 sec.<sup>-1</sup>. At greater <math>\nu</math> the whole liquid in the container rotated. In graphite sols (III) prepd. in an elec. arc under <math>H_2O</math> the curve of <math>\sin \alpha</math> against <math>\nu</math> was concave toward the <math>\nu</math> axis at all <math>\nu</math>. When the field intensity <math>H</math> was varied (up to 15,000 oersteds), I and II showed proportionality between <math>\sin \alpha</math> and <math>H^{-1/2}</math>, as would be expected from anisotropic diamagnetic particles; III showed proportionality between <math>\sin \alpha</math> and <math>H^{-1}</math> as if graphite particles had a const. magnetic moment; and sols prepd. by elec. dispersion of Fe in <math>H_2O</math> behaved as a ferromagnetic substance. <math>L</math> was proportional to viscosity which was varied by addn. of glycerol. By combining the data on <math>\alpha</math> with birefringence or dichroism of the sols in magnetic field <math>H</math> was calcd. for I, II, anisaluminarobenzene, acetoxybenzalazine, and dibenzalbenzidine. The particles of I, e.g., had a vol. of <math>3 \times 10^{-14}</math> cc. and their ratio length: width was 2.5.</p> <p style="text-align: right;">J. J. Bikerman</p> </div> </div>															<div style="display: flex; justify-content: space-between;"> <span>2</span> </div>														
JST AND JTD PREFIXES															JST AND JTD SUFFIXES														
<div style="display: flex; justify-content: space-between;"> <span>CA</span> <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>RELATING MAGNETIC SOLS AS A METHOD OF STUDYING COLLOIDAL SYSTEMS.</b>  V. N. Tsvetkov and M. Smirnov. <i>Kolloid. Zhur.</i> 11, 197-200 (1949).—A roughly cylindrical container, 1 cm. in diam., filled with a colloidal sol. was rotated about the cylinder axis between the poles of an electromagnet. The magnetic field produced torque <math>L</math> on every sol particle but frictional torque <math>W</math> retarded their orientation so that there was a lag of <math>\alpha</math> between the direction of the field and that of the particles; <math>\alpha</math> was detd. by observing the sol along the cylinder axis between crossed nicols and rotating the nicols until dark. Sols prepd. by mixing alc. so no. of <i>p</i>-acrylamide (I) or anisaldazine (II) with much <math>H_2O</math> showed proportionality between <math>\sin 2\alpha</math> and the frequency of rotation <math>\nu</math> as long as <math>\nu</math> was less than 3 sec.<sup>-1</sup>. At greater <math>\nu</math> the whole liquid in the container rotated. In graphite sols (III) prepd. in an elec. arc under <math>H_2O</math> the curve of <math>\sin \alpha</math> against <math>\nu</math> was concave toward the <math>\nu</math> axis at all <math>\nu</math>. When the field intensity <math>H</math> was varied (up to 15,000 oersteds), I and II showed proportionality between <math>\sin \alpha</math> and <math>H^{-1/2}</math>, as would be expected from anisotropic diamagnetic particles; III showed proportionality between <math>\sin \alpha</math> and <math>H^{-1}</math> as if graphite particles had a const. magnetic moment; and sols prepd. by elec. dispersion of Fe in <math>H_2O</math> behaved as a ferromagnetic substance. <math>L</math> was proportional to viscosity which was varied by addn. of glycerol. By combining the data on <math>\alpha</math> with birefringence or dichroism of the sols in magnetic field <math>H</math> was calcd. for I, II, anisaluminarobenzene, acetoxybenzalazine, and dibenzalbenzidine. The particles of I, e.g., had a vol. of <math>3 \times 10^{-14}</math></p></div></div>																													

SOSINSKIY, M.

IA 170T105

USSR/Physics - Colloids

Jun 49

"Studying the Geometric and Magnetic Properties of Colloidal Particles by the Methods of Magnetic and Dynamic Birefringence of Light," V. Tsvetkov, M. Sosinskiy, Leningrad State U

"Zhur Eksper i Teoret Fiz" Vol XIX, No 6, pp 543-52

New method for studying colloidal systems by double refraction and dichroism of colloidal solution in stationary and rotating magnetic field, and in laminar flow determines volume of colloidal particles, their coefficient of elongation, and magnitude of magnetic anisotropy. Submitted 27 Feb 49.

170T105

CP

2

Study of the particle size and shape in bentonite hydrosols by means of dynamic and electric birefringence. M. L. Sosinski (Univ. Leningrad). *Kolloid. Zhur.* 14, 103-6 (1952); cf. *C.A.* 43, 7291c.—The extinction angle  $\psi$  of the streaming birefringence of dil. bentonite (I) suspensions was  $> 45^\circ$ ; hence the suspension was polydisperse. Fractions of I obtained by centrifuging for  $t$  min. were approx. unidisperse. The coeff.  $D$  of rotational diffusion, calcd. from  $\psi$ , increased from  $0.5 \text{ sec.}^{-1}$  at  $t = 3$  to  $3.7 \text{ sec.}^{-1}$  at  $t = 40$  min. From  $D$  and the ratio  $f$  of the statn. birefringences in a stream and a magnetic field the ratio  $\rho$  of the major to the minor axis of the particle can be calcd. as  $f = (\rho - 1)/(\rho + 1)$ . For  $t = 30$ ,  $\rho$  was 3. The vol.  $v$  of these particles was  $4 \times 10^{-11} \text{ cc.}$ ; it was calcd. from  $D = kT/\eta cv$ ;  $\eta$  is viscosity and  $c$  is a no. depending on  $\rho$ .  $D$  was almost independent of the velocity gradient (which was varied between  $0.5$  and  $750 \text{ sec.}^{-1}$ ) if the measurement was made within a few hrs. after the prepn. of the suspension. J. J. Bikerman

Chair Gen. Phys I., Phys. Inst., Leningrad State U.



SOSINSKIY, M.L.

Chemical Abst.  
Vol. 48 No. 9  
May 10, 1954  
General and Physical Chemistry

Study of the particle size and shape in bentonite hydrosols  
by dynamic and electric birefringence. M. L. Sosinskiy  
Colloid J. (U.S.S.R.) 14, 215-19 (1952) (Engl. translation).  
See C.A. 46, 8465b. H. L. H.

3  
①  
Chem

SOSINSKIY, M.L.

Chemical Abstracts  
May 25, 1954  
Electronic Phenomena  
and Spectra

②  
A low-pressure mercury lamp and an attempt to apply it in the investigation of scattered light. M. L. Sosinskiy (Moscow Phys.-Tech. Inst.). *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 17, 621-3 (1953).—A H<sub>2</sub>O-cooled Hg low-pressure lamp is described which emits more intensive 4358-A. radiation than the standard lamp PRK-2. The coolant flows through a tube in the axis of the lamp. S. Pakushev

*194/54*

*Moscow Phys. Tech. Inst.*

SOSINSKIY, M. L.

USSR/Physics - Spectral analysis

Card 1/1 Pub. 43 - 39/62

Authors : Sosinskiy, M. L.

Title : Low pressure mercury lamp and its application to the study of combined diffusion spectra

Periodical : Izv. AN SSSR. Ser. fiz. 18/6, 709-710, Nov-Dec 1954

Abstract : The construction and adaption of a new, stable, low-pressure mercury lamp applicable for the study of combined diffusion spectra is announced. The lamp was designed in two forms: one, with cooling of the liquid electrodes and the entire length of the discharge and the second, with cooling of the electrodes and the zone of the discharge adjoining the electrodes. Mode of operation of the Hg-lamp is explained. Four references: 2 USSR, 1 English and 1 Indian (1948-1953). Table; diagrams.

Institution : The Physico-Technical Institute, Moscow

Submitted : .....

SOSINSKIY, M. L.

Sosinskiy, M. L. -- "The Development and Investigation of a Low-Pressure Mercury Arc and Its Use in Studying the Reverse Isomerism of 1,2-Dichloroethane." Min Higher Education. Moscow Physicotechnical Inst. Moscow, 1956. (Dissertation for the Degree of Candidate in Physicomathematical Sciences).

So: Knizhnaya Letopis', No. 11, 1956, pp 103-114

SOV/51-6-3-20/28

AUTHOR: Sosinskiy, M.L.

TITLE: A Low-Pressure Mercury Arc for Study of Light Scattering  
(Rtutnaya duga nizkogo davleniya dlya issledovaniya  
rasseyaniya sveta)

PERIODICAL: Optika i Spektroskopiya, 1959, Vol 6, Nr 3, pp 405-411,  
(USSR)

ABSTRACT: Three types of low-pressure mercury arc lamps are described. These lamps emit narrow lines, have low continuous background and low intensity of unwanted 4348 and 4339 Å lines (they interfere with the 4358 Å line). One of the lamps, L-1, is shown in Fig.1. It is 150 mm long and 18 mm in diameter, with a cooling spiral of 6 mm diameter along its axis. A small amount of helium (0.1 mm Hg) is placed in the lamp: it helps to start the lamp by means of the Sventitskiy circuit shown in Fig.2. The luminous flux emitted per unit length of the lamp L-1 is plotted against the temperature of the cooling water (t), the discharge current (I) and the helium pressure (P) in Figs.3,4 and 6 respectively. Fig.5 shows the ratio (A) of the luminous

Card 1/4

SOV/51-6-3-20/28

A Low-Pressure Mercury Arc for Study of Light Scattering

fluxes of the 4358 and 5461 Å lines as a function of the cooling water temperature (t). The lamp L-1 works somewhat unsteadily because mercury drops condense on the cooling spiral and then fall on to the hot walls of the lamp. The second lamp, L-2, is shown in Fig.7. Its dimensions are: 150 mm length and 20 mm diameter. Cooling with running water is limited to the electrode and near-electrode regions (Fig.7). Either helium (0.1 Hg) or argon is introduced into the lamp L-2 to help in the starting stage. The mercury pressure in L-1 and L-2 is of the order of 0.01 mm Hg. The intensity of the 4358 Å line emitted by L-2 is independent of the cooling water temperature. Fig.6 shows the dependence of the luminous flux emitted by L-2 on the discharge current. The lamp L-2 is more stable than L-1, but this stability has to be paid for by slightly greater width of the 4358 Å line. The ratio of the continuous background intensity to the intensity of the 4358 Å line is 80 times smaller in L-1 and L-2 than in high-pressure PRK-2 mercury lamps.

Card 2/4 The ratio of the intensities of the 4348 and 4339 Å lines to

SOV/51-6-3-20/28

# A Low-Pressure Mercury Arc for Study of Light Scattering

the intensity of the 4358 Å line is 10 times smaller in L-1 and L-2 than in PRK-2. At equal widths of the 4358 Å line the luminous flux from the L-1 and L-2 lamps is 20-30 times stronger than from PRK-2, but the maximum 4358 Å flux available from PRK-2 is 2-3 times greater than that from L-1 or L-2. The third lamp L-3 is of spiral shape (Fig.9) with 20-22 mm diameter of the tube and 30 mm internal radius of each turn. Its construction followed Kemp et al. (Ref.8). The lamp L-3 is filled with 97% A + 2.8% Kr + 0.2% Xe. The continuous background intensity is the same as in L-2. The luminous flux from L-3 is comparable with that from PRK-2 and PS-44 lamps, but L-3 has to be used with a cylindrical light-filter. In conclusion the author discusses briefly the use of the L-1, L-2 and L-3 lamps in Raman and Rayleigh scattering studies. Acknowledgement is made to G.S. Landsberg who directed this work. There are

Card 3/4 9 figures, 1 table and 14 references, of which 13 are

SOV/51-6-3-20/28

A Low-Pressure Mercury Arc for Study of Light Scattering

Soviet and 1 English.

SUBMITTED: January 10, 1958

Card 4/4



L 31074-65 EWA(k)/EWT(1)/EEC(k)-2/T/EEC(b)-2/EWP(k)/EWA(m)-2 Po-4/Pf-4/Pi-4

ACCESSION NR: AP5006441

IJP(c) WG/JHB

S/0051/65/018/003/0510/0512

AUTHOR: Sodinskiy M. L.; Morozov, Ye. N.

47  
B

TITLE: Attainment of negative absorption on part of a Doppler broadened line

SOURCE: Optika i spektroskopiya, v. 18, no. 3, 1965, 510-512

TOPIC TAGS: negative absorption, amplification, population inversion, laser, Doppler broadening, gas laser, second kind collision, photodissociation

ABSTRACT: A method of amplification of electromagnetic radiation is analyzed in which the total population at the upper level is less than the total population at the lower level  $N_1 < N_k$ , but in which the inequality  $\Delta N_1(\nu) > \Delta N_k(\nu)$  still holds in some frequency range  $\nu, \nu + \Delta\nu$ . Stimulated emission exceeding absorption even in the absence of total inverted population can be attained by exciting atoms by means of collisions of the second kind or during photodissociation. In both cases the excess excitation energy is converted into kinetic energy. Therefore, excited atoms will be "hotter" than unexcited atoms and the

Card 1/2

L 31074-65

ACCESSION NR: AP5006441

emission line  $\nu_{ik}$  will be broader than the absorption line  $\nu_{ki}$  because the breadth of the latter is determined by the "cold" atoms at the k level. Two methods, resonance exchange of the excitation energy of two similar atoms and the effect of a buffer gas, are considered as means for removing excess kinetic energy of atoms at the lower level, which may even be a metastable or a ground level. A formula is derived for the critical ratio of concentrations at the two levels. Orig. art. has: 4 formulas. [CS]

ASSOCIATION: none

SUBMITTED: 26Feb64

ENCL: 00

SUB CODE: EC, NP

NO REF SOV: 001

OTHER: 000

ATD PRESS: 3198

Card 2/2

SOSINSKIY, M.L.; MOROZOV, Ye.N.

Occurrence of negative absorption in a portion of a Doppler-  
broadened line. Opt. i spektr. 18 no.3:510-512 Mr '65.  
(MIRA 18:5)

L 14604-66 EWT(m)/T/EWP(t)/EWP(b) IJP(c) JD  
ACC NR: AP5025306 SOURCE CODE: UR/0051/65/019/004/0634/0635

AUTHOR: Sosinskiy, M. L.; Morozov, Ye. N.

ORG: none

TITLE: Luminescence and absorption associated with the lower terms of cobaltous and nickelous ions in ZnS single crystals 4

SOURCE: Optika i spektroskopiya, v. 19, no. 4, 1965, 634-635

TOPIC TAGS: zinc sulfide, cobalt, nickel, luminescence spectrum, absorption spectrum, spectral line

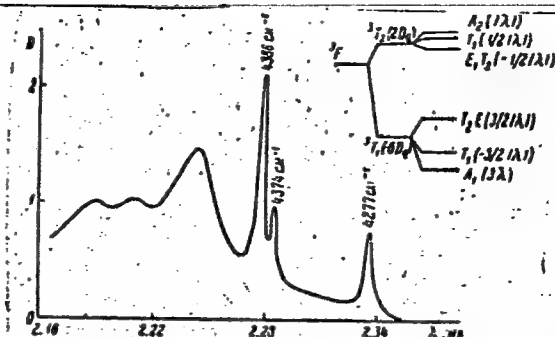
ABSTRACT: ZnS-Co and ZnS-Ni single crystals of the wurtzite modification with an activator content of 0.5 to 0.005% (in the initial mixture) were grown by the Bridgman method, and their absorption and luminescence spectra were measured at 10, 20, and 77K (ZnS-Co) and 4.2K (ZnS-Ni). Fig. 1 shows a schematic absorption spectrum associated with the excitation of the lower term of  $Ni^{2+}$  ion in ZnS. The spectrum contains three narrow bands with frequencies of 4386, 4374, and  $4277\text{ cm}^{-1}$  and several broad bands which may be due to electronic-vibrational transitions. No luminescence of  $Ni^{2+}$  could be observed in ZnS. The position of the terms is described by the crystal field theory for reasonable values of the field strength  $Dq$  and Racah parameters  $B$  and  $C$ . The theoretical schemes of the two lower terms of configurations  $d^7$  (Co) and  $d^8$  (Ni), allowing for spin-orbital interaction, are given. The number of lines observed in the absorption spectrum corresponds to the number

Card 1/2

UDC: 535.370

ACC NR: AP5025306

**Fig. 1. Absorption spectrum of ZnS-Ni crystal at  $T = 4.2\text{K}$ .**



expected from this scheme (if it is assumed that the broader bands in the spectra of ZnS-Ni crystals are associated with the appearance of phonons). However, no definite comparison between the observed spectral intervals and the structure of the terms  ${}^3T_2$  could be made for  $Ni^{2+}$  ion and  ${}^4T_2$  for  $Co^{2+}$  ion. Authors express their thanks to M. B. Yepifanov for assistance in the construction of the measuring apparatus. Orig. art. has: 3 figures.

SUB CODE: 20 / SUBM DATE: 16Dec64 / ORIG REF: 005 / OTH REF: 003

TS 2/2  
Card

SOSINSKIY, M. Yu.; USHAKOV, I. M.; SHABALIN, A. F.

Infiltration water intakes with surface water supply. Vod. 1 san.  
tekhn. no. 9:10-13 S '60. (MIRA 13:11)  
(Water-supply engineering)

SOSIN'SKIY, R., inzhener.

In the depths of the seas. Tekh.mol. 22 no.11:24-27 N '54.  
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Using softened water in bottle-washing machines. Spirt. prom. 24  
no.8:24-25 '58. (MIRA 11:12)  
(Bottle washing)



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Spir. prom. 25 no.7:28-29 '59. (MIRA 13:2)  
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BOLTOVSKIY, N.V.; SOSIPAIROV, A.M.

Activities of the Tula Liqueur and Vodka Distillery during  
the years of the seven-year plan. Fern. i spirt. prom. 31  
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Veterinariya, vol. 39, no. 2, February 1962 pp. 30

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Development cycle in *Echinochasmus perfoliatus* (Ratz, 1908).  
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Methods of keeping freshwater mollusks under laboratory  
conditions. Ibid.:184-193 (MIRA 18:12)

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O.A., red.; FRUMKIN, P.S., tekhn. red.

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(MIRA 15:3)

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nauchnyy red.; SOSIPATROV, O.A., red.; FRUMKIN, P.S., tekhn.  
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PUGACHEV, Aleksandr Sergeyevich; LEBEDEV, V.I., inzh., retsenzent;  
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(Ships--Painting)  
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RIMMER, A.I., nauchn. red.; SOSIPATROV, O.A., red.;  
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Ivanovich, inzh.; DROZDOV, D.F., inzh., retsenzent;  
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Vol.2. 1965. 679 p. (MIRA 18:10)

1. Russia (1923- U.S.S.R.) Laws, statutes, etc.

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<sup>27</sup>  
Kinetics of the reaction between sodium sulfate and coal.  
H. A. P. Byutin and T. M. Seginov. *Trudy Khim.-Met.  
Inst., Zapad. Sibir. Filial, Akad. Nauk S.S.S.R.* 1954,  
No. 8, 39-51; *Referat. Zhur., Khim.* 1956, No. 430; cf.  
*Trudy Khim.-Met. Inst., Zapad. Sibir. Filial, Akad. Nauk  
S.S.S.R.* 1951, No. 5, 57. —Addn. of  $\text{Na}_2\text{S}$  increases the  
reaction velocity when  $\text{Na}_2\text{SO}_4$  is reduced to  $\text{Na}_2\text{S}$  by coal.  
The greatest effect is found at low temps. Addn. of 10%  
 $\text{Na}_2\text{S}$  increases the reduction of  $\text{Na}_2\text{SO}_4$  at  $730^\circ$  from 6.7%  
to 16%. The induction period, when adding  $\text{Na}_2\text{S}$ , is de-  
creased to about one-third of the original. The energy of  
activation, calcd. from the velocity of  $\text{CO}_2$  formation, drops  
from 92 to 42 kcal./mol. when 10-20% of  $\text{Na}_2\text{S}$  is added.  
The accelerated reaction is explained by the appearance  
of a liquid phase aiding the contact and diffusion of the re-  
agents. N. Vasileff

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SOSIPATROV, T.M.

Thenardite formation in the sulfate-chloride lakes of Kulunda  
Steppe: Izv. Sib. otd. AN SSSR no.3:65-76 '58. (MIRA 11:8)

1. Zapadno-Sibirskiy filial AN SSSR.  
(Kulunda Steppe--Thenardite)

SOSIPATROV, T.M.; LYAPUNOV, M.F.

Obtaining thenardite from the brines of Lake Kuchuk under natural conditions. Izv. Sib. otd. AN SSSR no.6:59-68 '58. (MIRA 11:9)

1. Zapadno-Sibirskiy filial AN SSSR.  
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SOSIPATROV, T.M.; LYAPUNOV, M.F.

Variation in the chemical composition of natural brine from  
Bolshoi Azhbulat Lake according to data from many years. Izv.  
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1. Khimiko-metallurgicheskiy institut Sibirskogo otdeleniya Akademii  
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(Bolshoy Azhbulat Lake--Water)

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Determination of the specific electric conductivity of electrolytes  
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GLOTOV, V.N.; Primali uchastiye: VLADIMIROVICH, M.T.; IVANNIKOV, A.Ye.;  
KIRZNER, N.A.; SOSIPATROV, V.A.; ZHELEZKOVA, M.I.

Microcrushing of pigments and fillers with the "Microatomizer"  
apparatus. Lakokras.mat.i ikh prim. no.6:57-60 '62. (MIRA 16:1)  
(Paint industry—Equipment and supplies)

URZAGIN, D.E.; PONSATIN, S.N.; SOSIPATROV, V.I.; SEMAKOVA, I.S.;  
YONNIKOV, G.A.; RAKEVICH, S.Z.

Behavior of gases in the crystallization process of rimmed steel  
ingots. Izv.vys.snezh.mst.; Chern.mst. 8 no.3:44-49 '65.  
(MIRA 18:8)

Leningradskiy politekhnicheskii institut.

STEPANENKO, I.I.; BYKOV, G.D.; SOSIPATROV, V.T.; TAT'YANSHCHIKOV, A.G.

Rapid top pouring of steel, Metallurg 10 no.8:18-20 Ag '65.

(MIRA 18:8)

1. Cherepovetskiy metallurgicheskiy zavod.

L 90556-66 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c),  
LJP(c)/T.MJW/JD/HW/

ACCESSION NR: AP5019943

UR/0133/65/000/008/0704/0705  
669.18:658.562

AUTHORS: Tat'yanshchikov, A. G.; Alymov, A. A.; Bykov, G. D.; Sosipatov, V. T. <sup>50</sup><sub>31</sub>

TITLE: Production of chemically sealed low-carbon steel for thin cold-rolled sheet

SOURCE: Stal', no. 8, 1965, 704-705

TOPIC TAGS: boiling steel, steel sheet, steel pouring, 08 kp steel, 15 kp steel

ABSTRACT: A method for obtaining chemically sealed low-carbon steel for thin cold-rolled sheet was developed. Experimental alloys were made in one- and two-spout furnaces using the same methods and ingredients as for ordinary boiling steels except that granulated aluminum (in an amount determined by the final carbon content) was added to the mold during the last 2-5 seconds of pouring into a 14 Mg mold from 30- and 70-mm diameter spouts. Thirteen experimental alloys of steel 08 kp and one of steel 15 kp were investigated; 8 were speed poured thru 60-80 mm diameter spouts (14 tons/min), 6 were poured slowly thru 30-mm spouts (3.2 tons/min). Both pouring methods were found satisfactory, with the faster pouring method requiring less granulated aluminum for satisfactory sealing. Comparison of cold-rolled chemically sealed and normal boiling steel sheets showed

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that the chemically sealed steel gave 4.18% more useful steel (because of only 4.3% topping cut versus 11.5% for boiling steel), saving 58 kg of metal per ton. Sorting of the cold-rolled sheets into class I, class II, unclassified, and scrap categories gave 5.37% more class I sheets with the chemically sealed process and a corresponding decrease in the scrap and the other two categories. Liquation of C, S, and P was found to be less with the chemically sealed steel, particularly in the region 18-20% from the top: maximum occurred at 22-24% from the top and was 70, 220, and 190% respectively (compared with ladle specimen) as compared to 200, 800, and 290% for boiling steel. The mechanical and deep-drawing properties of the experimental steels were found to be as good as those of ordinary boiling steel. The following persons participated in the work: engineers E. V. Tkachenko, G. A. Paunichev, D. M. Andreyeva, T. R. Prishchepo, V. V. Chistyakova, Ye. I. Postnova, Yu. I. Putilin (Cherepovetskiy metallurgicheskiy zavod) (Cherepovets Metallurgical Plant); candidate of technical sciences F. G. Kovtun, engineers F. T. Mal'tsev, V. I. Burtasov, O. A. Rozhkov, F. A. Moskvichev, M. D. Koryakin (Lys'venskiy metallurgicheskiy zavod) (Lys'va Metallurgical Plant). Orig. art. has 2 tables.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: MM, IE

NO REF SOV: 002

OTHER: 000

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ACC I.R. AP6021713

SCURCE CODE: UR/0130/66/000/003/0027/0028

AUTHOR: Monid, A. G.; Benyakovskiy, M. A.; Smolyarenko, D. A.; Sivtsov, G. V.;  
Tkachenko, E. V.; D'yakonova, V. S.; Popov, P. I.; Pakudin, V. P.; Shirinskaya, S. A.;  
Sosipatrov, V. I.

ORG: none

TITLE: Production testing of 08Yu cold rolled low carbon steel

SOURCE: Metallurg, no. 3, 1966, 27-28

TOPIC TAGS: low carbon steel, deoxidation, cold rolling, quality control / 08Yu steel

ABSTRACT: Production testing was carried out on nonaging 08Yu steel sheets at the Cherepovetsky Metallurgical Plant and the results were compared to the norms set by GOST 9045-59. Melting was carried out in single-grooved Martens furnaces of average capacity; deoxidation by ferromanganese was done in steps--50% in the furnace and 50% in the ladle; Al was also introduced in the ladle in quantities of 100-150 g/T of steel while full deoxidation was accomplished by the addition of Al pellets in quantities of 900-1000 g/T. The chemical composition of 08Yu steel compared favorably with the standards set by GOST 9045-59 (experimentally--C=0.04-0.08%, Si=0.01%, Mn=0.32-0.38%, S=0.009-0.016%, P=0.01-0.015%, Cr=0.01-0.03%, Ni=0.03-0.07%, Cu=0.02-0.07% and Al=0.02-0.05%). Ingots weighing 14T were hot rolled in 15-18 passes into slabs of

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135-140 mm thickness and 1070-1430 mm width on a 1150 bloom. These slabs were next cold rolled to a maximum of 68% reduction into sheets of 2.5-3.5 mm thickness and 1040-1430 mm width. Annealing was done at 550°C for 10 hrs at a heating rate of 15°/hr and cooling was at 6°/hr. The final operation was a finishing pass at 1.0-1.3% reduction. Tests made on the sheets after aging at 200°C for 30 min substantiated that the steel was nonaging. The sheets performed well in stamping tests which were run under the stamping conditions used at the Gor'ky Automotive Plant. Orig. art. has: 1 table.

SUB CODE: 11,14/

SUBM DATE: none

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SHVEDOV, N.A.; USTRITSKIY, V.I.; ~~CH~~HERNYAK, G.Ye.; GERKE, A.A.; SOSIPATROVA, G.P.

New stratigraphic scheme of upper Paleozoic sediments in the Taymyr Peninsula. Sbor.st.po paleont. i biostrat. no.24:12-15 '61.  
(MIRA 15:2)

(Taymyr Peninsula—Geology, Stratigraphic)